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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,871	07/03/2003	Minehiro Konya	0033 - 0892P	4164

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EXAMINER

HAJNIK, DANIEL F

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/611,871	Applicant(s) KONYA ET AL.	
	Examiner Daniel F. Hajnik	Art Unit 2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to an amendment filed 10/7/2005.
2. Claims 1, 2, 4, and 13 have been amended.
3. Claims 14-29 have been added.
4. No claims have been cancelled.

Claim Objections

5. Claim 28 is objected to because of the following informalities: Several terms in the claim language such as "said operator keys" and "the selection" lack antecedent basis as being dependent upon claim 18. The examiner will assume in this office action for purposes of examination that claim 28 was meant to be dependent upon claim 27. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. Claims 1-2, 4-5, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imura et al. (US Patent 4929971, herein referred to as "Imura") in view of Szeliski et al. (US Patent 6097854, herein referred to as "Szeliski")

As per claim 4, Imura teaches the claimed "single pickup device" by teaching of "electronic still camera" (col 9, line 26).

Imura teaches the claimed "parallax information" by teaching of "detecting parallax information" (col 1, line 60).

Art Unit: 2671

Imura does not explicitly teach the claimed "three dimensional image creation portion". Szeliski teaches the claimed limitation by teaching of "mapping the mosaic onto any texture-mapped polyhedron surrounding the origin" (col 5, lines 34-35) and by teaching of "3D model formats" (col 5, lines 36-37).

Imura does not explicitly teach the claimed "display unit". Szeliski teaches the claimed limitation by teaching of "standard 3D graphics viewers and hardware" (col 5, line 26).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Imura and Szeliski. One advantage to the combination is provided by Szeliski, which teaches of "The complete description of visual scenes and scene models often entails the recovery of depth or parallax information" (col 3, lines 6-8) and thus would suggest the need of Szeliski to utilize an invention such as Imura.

As per claim 1, this claim has limitations that follow those within claim 4 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 5, Imura teaches the claimed "picking up a two dimensional image" by teaching of "electronic still camera" (col 9, line 26) where such a camera is known to take a two-dimensional image of a scene.

As per claim 2, the reasons and rationale for the rejection of claim 5 are incorporated herein. Imura does not explicitly teach the claimed "creates a three dimensional image from a single said two dimensional image". Szeliski teaches the claimed limitation by teaching of "One image is divided into plural patches" (col 4, lines 25-26) and by teaching of "mapping the mosaic onto any texture-mapped polyhedron

Art Unit: 2671

surrounding the origin" (col 5, lines 34-35) where the mosaic is a single two-dimensional image being mapped onto a three dimensional shape.

As per claim 14, Imura teaches the claimed "parallax information based on the distance" by teaching of "parallax information determined from the positional relationship between ... lens and object distance" (col 2, lines 41-45).

As per claim 15, Imura teaches the claimed "parallax information based on the brightness" by teaching of the parallax information being based upon distance (col 2, lines 41-45) where objects from a further distance may be appear to be less bright than closer objects especially when a camera flash is used.

As per claim 16, Imura teaches the claimed "parallax information based on the intensity of light" by teaching of the parallax information being based upon distance (col 2, lines 41-45) where objects from a further distance may be appear to be less intense than closer objects especially when a camera flash is used.

7. Claims 3 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imura in view of Szeliski in further view of Aoki et al. (US Pub 2002/0054032, herein referred to as "Aoki").

As per claim 6, Imura does not explicitly teach the claimed limitations.

Aoki teaches the claimed "communication control portion" by teaching of in figure 1, piece 22 which points towards the keypad on a cellular phone.

Aoki teaches the claimed "transmission and reception portion" in figure 17, pieces 507 and 508.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Aoki with the combinable system of Imura and Szeliski. One advantage to the combination is provided by Aoki, which teaches of "a transmission channel 3 to enable conversation to be enjoyed" (paragraph [0005]).

As per claim 3, this claim has limitations that follow those within claim 6 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 7, Imura does not explicitly teach the claimed "cuts a human face out". Aoki teaches the claimed limitation by teaching of "the face image is cut out and that image is compressed and transmitted" (paragraph [0039]).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Aoki with the combinable system of Imura and Szeliski. One advantage to the combination is provided by Aoki which teaches of "able to realize communication in a state where eye contact is maintained and an apparatus using the method and a data transmission system" (paragraph [0015])

As per claim 8, this claim has limitations that follow those within claim 5 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 9, this claim has limitations that follow those within claim 6 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 10, Imura teaches the claimed "selects a particular subject from said image ... included in said image ... other than said particular subject with different parallax information". Aoki teaches the claimed limitation by teaching of in figures 7A and 7B extracting a face (particular subject) from an initial image where if background

Art Unit: 2671

objects are included in the initial image, they would have different parallax information (depth information) and thus would not be extracted by the system.

As per claim 11, this claim has limitations that follow those within claim 5 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 12, this claim has limitations that follow those within claim 6 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 13, this claim has limitations that follow those within claims 4, 5, and 7 in terms of functionality, and thus are subject to the same reasons for rejection.

8. Claims 17, 23, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski in view of Yokoi et al. (US Patent 5682171, herein referred to as "Yokoi").

As per claim 17, Szeliski teaches the claimed "first data process means" for the same reasons as the claimed "three dimensional image creation portion" of claim 4.

Szeliski teaches the claimed "second data process means" by teaching of "By mapping the mosaic onto an arbitrary texture-mapped polyhedron surrounding the origin, the virtual environment is exploited using standard 3D graphics viewers" (col 33, lines 15-19) where such a graphic viewer can create a left and right image by using well known perspective transformation functions.

Szeliski teaches the claimed "display unit" for the same reasons as the claimed "display unit" of claim 4.

Szeliski does not explicitly teach the claimed "three dimensional image creation portion ... the display data including image data for a right eye and for a left eye". Yokoi teaches the claimed limitation by teaching of in figure 25 creating separate images for the right eye and left eye and by teaching of "converting planar image data for one picture in the source image data into the first and second display" (col 2, lines 25-27).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Yokoi and Szeliski. One advantage to the combination is provided by Yokoi, which teaches of simplifying stereoscopic design by extracting two images for each eye from 1 image only (col 2, lines 58-64).

As per claim 29, this claim has limitations that follow those within claim 17 in terms of functionality, and thus are subject to the same reasons for rejection.

As per claim 23, Szeliski teaches the claimed "memory for storing a geometry model" by teaching of a memory storing models in figure 2B, piece 270.

9. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski in view of Yokoi in further view of Taniguchi et al. (US Patent 6940646, herein referred to as "Taniguchi").

As per claim 18, Szeliski does not explicitly teach the claimed "switching liquid crystal element". Taniguchi teaches the claimed limitation by teaching of "liquid crystal shutter" (col 2, line 56) and by teaching of "switching of parallax images" (col 2, line 36).

Szeliski does not explicitly teach the claimed "deflection angle and patterned phase difference". Taniguchi teaches the claimed limitations by teaching of "guiding

Art Unit: 2671

display light" (col 2, line 21), "a phase plate with a phase difference" (col 14, lines 37-38), and by teaching of "a checkered pattern" (col 14, line 60).

Szeliski does not explicitly teach the claimed "controlling portion". Taniguchi teaches the claimed limitation by teaching of "to control a phase shift state for each block" (col 14, lines 37-38).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Taniguchi with the combinable system of Szeliski and Yokoi. One advantage to the combination is provided by Taniguchi, which teaches of displaying a high resolution stereoscopic image without flicker and without special spectacles (col 2, lines 13-16) for parallax images for each of the left and right eyes (col 2, line 2).

As per claim 19, Szeliski does not explicitly teach the claimed "prevent an image ... from passing through the pixels". Taniguchi teaches the claimed limitation by teaching of "liquid crystal shutter" (col 2, line 56) where a shutter would require the use of preventing an image from passing for a given time.

As per claim 20, Szeliski does not explicitly teach the claimed "operation keys". Taniguchi teaches of a "driving device" (pieces 11 and 12) and "image forming device" (piece 10) in figure 28. Given these teachings, it would have been obvious to one of ordinary skill in the art to use the claimed limitation because the operation keys would provide a convenient and readily known way for the user to control the driving and image forming device.

Art Unit: 2671

10. Claims 21 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski in view of Yokoi in further view of Imura.

As per claim 21, Szeliski does not explicitly teach the claimed "single pickup device". Imura teaches the claimed limitation by teaching of "electronic still camera" (col 9, line 26).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Imura with the combinable system of Szeliski and Yokoi. One advantage to using the camera of Imura is to readily and quickly obtain photos using a well established method to be processed by the system of Szeliski and Yokoi.

As per claim 24, Szeliski does not explicitly teach the claimed "shutter button". Imura teaches the claimed limitation by teaching of "obtained a photograph" (col 8, line 44) and by teaching of "provide a shutter" (col 8, line 55).

As per claim 25, Szeliski teaches the claimed "three dimensional image creation portion generates the display data in response to the brightness" by teaching of a "3D model" (col 5, line 36) and by teaching of "the process minimizes ... intensity or color error" (col 11, lines 44-54) where the brightness is related to the intensity of light.

Szeliski does not explicitly teach the claimed "dividing portion" and does not explicitly teach the claimed "detecting portion". Imura teaches the claimed "dividing portion" and teaches the claimed "detecting portion" by teaching of "image sensor such as a CCD" (col 9, line 27) where it is known in the art that such a CCD comprising an array divided into sensor blocks for detecting light.

As per claim 26, the reasons and rationale for the rejection of claim 25 are incorporated herein. Szeliski does not explicitly teach the claimed "radiation unit". Imura teaches the claimed limitation by teaching of "Light emitted from a lamp 114 illuminates through condenser lenses" (col 7, lines 11-12).

11. Claims 22 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Szeliski in view of Yokoi in further view of Aoki.

As per claim 22, Szeliski does not explicitly teach the claimed limitations. This claim has limitations that follow those within claim 6 in terms of functionality, and thus are subject to the same reasons for rejection in regards to the Aoki reference.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Aoki with the combinable system of Szeliski and Yokoi. One advantage to the combination is provided by Aoki, which teaches of "a transmission channel 3 to enable conversation to be enjoyed" (paragraph [0005]).

As per claim 27, Szeliski does not teach the claimed limitations. Aoki teaches the claimed "selection of a subject from the background" by teaching of "the face image is cut out and that image is compressed and transmitted" (paragraph [0039]) and by teaching of "so that a user is able to ... cut out on the terminal" (paragraph [0041]) where the terminal's operation keys are shown in figure 1, piece 22.

Aoki teaches the claimed "generating the two dimensional image data of the subject in response to the selection" in figure 7B, piece 53.

As per claim 28, Imura teaches the claimed "selection of a plurality of subjects and ... generates the ... image data ... of the selected subjects" by teaching of "(a portion of the body such as the eyes, nose, mouth, ears, or outline of the face) is cut out from the image" (paragraph [0042]) where these body portions are a plurality of subjects.

Response to Arguments

12. Applicant's arguments filed 10/7/2005 have been fully considered but they are not persuasive. Applicant argue "Claims 1-6 have been rejected ... Applicants traverse this rejection based on the claims as amended".

The examiner respectfully maintains that the rejection in view of the claim language at the time of writing the previous office action was proper. In addition, further arguments by applicant are also based on amended claim language. In particular, arguments related to parallax information used in conjunction with generation of three dimensional data on mobile equipment in the current application. This office action has been elaborated to address amended limitations by applicants.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2671

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel F. Hajnik whose telephone number is (571) 272-7642. The examiner can normally be reached on Mon-Fri (8:30A-5:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka J. Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Kim

12/16/05

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